REMARKS

Claims 1-32 are pending. Applicant has amended claims 1, 9, 18, and 28. No claims have been canceled.

The Examiner has rejected claims 1-32 under 35 U.S.C. § 103(a) as being unpatentable based on the following combinations of references.

Claims	References
1-3, 6, 7, 9-12, 16, 18-21, 25, and 28-32	Brunner, Riconda and Koyanagi
4-5, 14-15, 23-24	Brunner, Riconda, Koyanagi, and EO Target Geolocation Determination
8, 17, 26-27	Brunner, Riconda, Koyanagi, and Williams
13	Brunner, Riconda, Koyanagi, and Avila
22	Brunner, Riconda, Koyanagi, and Abtikidis

Even though applicant respectfully disagrees with the basis of these rejections, applicant has amended independent claims 1, 9, 18, and 28 to further clarify the claimed invention. The combined teachings of Brunner, Koyanagi, and Riconda cannot support a *prima facie* case of obviousness of the pending claims because (1) the combined teachings fail to teach or suggest each and every feature of the claims, and (2) there is no motivation or suggestion to combine the reference teachings.

Brunner describes a camera system for tracking a target from an aircraft. Brunner's system receives aircraft position data and target position data and then generates pointing parameters for the camera and moves the camera according to the pointing parameters. To track the target, Brunner's system receives new aircraft data, generates new pointing parameters, and moves the camera.

Koyanagi describes a system for tracking a target based on the target's position with an image taken by a camera. Koyanagi's system sets a speed (e.g., pan or tilt speed)

for the camera. If it detects that the target is moving toward the edge of the image (i.e., using object detection techniques), then Koyanagi's system adjusts the speed of the camera so that the target will move to the center of the image.

Riconda describes a system for focusing a camera on a target (e.g., a street sign). The camera is mounted on a vehicle. Specifically, Riconda discloses calculating a position of the target relative to the vehicle by, for example, monitoring the speed and wheel orientation of the vehicle, or by inertial sensors. Then, using trigonometric techniques, the relative position can be converted into an angular offset to adjust the mounted imaging device that will keep "the target roughly centered in the camera's field of view."

Applicant's technique is directed to tracking a target that combines both a control mechanism based on a velocity of the vehicle and a control mechanism based on a line-of-sight offset. First, to compensate for the current velocity of the vehicle, an angular velocity of the camera can be calculated and set based on the current velocity of the vehicle carrying the camera irrespective of the current line-of-sight offset. Thus, the angular velocity of the camera can be set to a finite value even though there is no line-of-sight offset at the moment. Periodically, the line of sight of the camera can be checked and adjusted based on an adjustment angle between the vehicle and the camera (i.e., the angle between where the line of sight should be and where the line of sight is). Because applicant's technique continually adjusts the line of sight of the camera by varying the angular velocity in between changing the adjustment angle, the adjustment angles tend to be small resulting in less jumping of the target within the image.

The combined teachings of Brunner, Koyanagi, and Riconda fail to teach or suggest "the angular velocity being calculated based on the velocity of the vehicle" of claims 1-32 because all three references disclose control mechanism based purely on line-of-sight adjustments. For example, Brunner discloses generating pointing parameters based on offset of the aircraft position and the target position for the camera and moves the camera

according to the pointing parameters. Thus, if the camera is currently on target, Brunner's technique would not move the camera at all because there is no offset.

Koyanagi discloses monitoring where the target is in relation to the edge of the screen. If the target is about to "run off" the screen, then Koyanagi's system adjusts the angular speed of the camera so that the target will not run off the screen. Koyanagi, though, does not teach or suggest that the camera speed can be calculated based on any parameters, but instead, the speed is simply incremented or decremented by a pre-defined amount. As a result, if the target is currently not "running off" the screen, Koyanagi's technique would not adjust the camera speed even though the target is quickly running toward the edge of the screen.

Even though Riconda discloses monitoring the speed and wheel orientation of a vehicle, Riconda does not teach or suggest that the speed and wheel orientation of the vehicle can be used to calculate the angular velocity of the camera. Instead, the speed and wheel orientation are used to calculate a change in an angular offset between the camera and the target. The angular offset is an angular difference between where the line of sight should be and where it currently is. Thus, if Riconda's camera is currently "roughly" on the target, then the camera is not adjusted because there is no offset between the vehicle and the target even though the vehicle can be moving at a fast speed relative to the target. Thus, none of these references disclose "the angular velocity being calculated based on the velocity of the vehicle" of claims 1-32.

In the June 5, 2006, Office Action, the Examiner appears to suggest combining Koyanagi's angular speed determination and Riconda's vehicle speed and wheel orientation to teach "the angular velocity being calculated based on the velocity of the vehicle" of the pending claims. However, such a combination is impermissible because when applying 35 U.S.C. § 103, the references must be considered as a whole. *M.P.E.P. § 2141 II.* The Examiner cannot pick and choose elements from references based on applicant's claim to find obviousness. Otherwise, virtually nothing would be patentable.

Here, Riconda's vehicle speed and wheel orientation are not used to calculate a camera angular velocity but instead an angular offset, which is an angular difference between where the line of sight is and where it should be. Calculating an angular offset based on Riconda's vehicle speed and wheel orientation is not the same as calculating an angular velocity based on similar parameters. Neither Koyanagi nor Riconda discloses that the camera angular velocity can be calculated as a function of a monitored parameter such as the vehicle speed. As a result, even if Riconda were combined with Koyanagi, the combined teachings still do not disclose "the angular velocity being calculated based on the velocity of the vehicle" of the pending claims because Koyanagi's camera angular velocity would still be simply incremented or decremented based on the calculated angular offset of Riconda.

In addition, the proposed combination would change the principle of operation of Koyanagi and Riconda, which is impermissible. *M.P.E.P. § 2143.01.* As discussed above, both Koyanagi and Riconda rely on some forms of location feedback of a target to adjust either the camera speed or the camera angle. If Koyanagi and Riconda were combined, *arguendo*, in the manner as suggested by the Examiner, then Koyanagi's camera speed adjustment is not based on a controlled process variable (i.e., the location feedback of the target), but instead based on a non-controlled process variable (i.e., the current vehicle speed and wheel orientation). As a result, Koyanagi's control mechanism would be changed from feedback control to feed forward control because any actions of the camera would not affect the current vehicle speed and the wheel orientation. Thus, the proposed combination of Koyanagi and Riconda would impermissibly change the principle of operation of these references. As a result, the combined teachings of Brunner, Koyanagi, and Riconda fail to teach or suggest at least one feature of claims 1-32.

Based upon the above amendments and remarks, Applicant respectfully requests reconsideration of this application and its early allowance. If the Examiner has any question or believes that a telephone conference would expedite the prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-8548.

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Respectfully submitted,

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